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REMARKS

Favorable reconsideration of this application is respectfully requested in view of amendments above and the following remarks. Claims 1, 4-21, 24-31, and 34-35 are pending in the present application of which claims 1, 14, 21, 24, 27, 31 and 35 are independent. Claims 2-3, 22-23, 32-33 and 36 are canceled herein.

Claims 31-36 were rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter.

Claims 1-8, 10-18, 20-27, 29-36 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Xu et al. (HPL-2002-314R1), referred to as XuR1.

Claim 9 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over XuR1 in view of Rune et al. (2004/0156384), referred to as Rune.

Claims 19 and 28 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over XuR1 in view of Xu et al. (HPL-2002-126R2), referred to as XuR2.

Claims 1-5, 10, 12, 14, 24 and 31-33 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. (2003/0012132), referred to as Novaes, in view of Banerjee et al. "Construction of an Efficient Overlay Multicast for Real-Time Applications", referred to as Banerjee.

Claim 6 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes in view of Banerjee as applied to claim 1 above, and further in view of Roy et al. "Application Level Hand-Off Support for Mobile Media Transcoding Sessions", referred to as Roy.

Claims 7-8, 13, 15-18, 20-23, 25-27, 34-36 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes in view of Banerjee as applied to claim 1 above, and further in view of Xu et al. (HPL-2002-281), referred to as Xu281.

Claim 11 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes in view of Banerjee, as applied to claim 1 above, and further in view of Mandato et al. (2005/0157660), referred to as Mandato.

Claim 9 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes in view of Banerjee, as applied to claim 1 above, and further in view of Rune.

Claims 19, 28-30 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes in view of Banerjee, as applied to claim 1 above, and further in view of Xu281 and further in view of XuR2.

These rejections are traversed for the reasons stated below.

Declaration and Exhibit 1

Claims 1-8, 10-18, 20-27, 29-36 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Xu et al. (HPL-2002-314R1), referred to as XuR1. Claims 9, 19 and 28 were also rejected over XuR1 in combination with other references.

The attached declaration and exhibit 1 are evidence that XuR1 was not published more than 1 year prior to the filing date of the present application. Accordingly, XuR1 is not prior art.

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Drawings

The indication that the drawings submitted on March 11, 2004 have been accepted is noted with appreciation.

Claim Rejection Under 35 U.S.C. §101

Claims 31-36 were rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. Independent claims 31 and 35 have been amended to recite a tangible computer readable medium. Accordingly, the rejection is believed to be overcome.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

> Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Claims 1-8, 10-18, 20-27, 29-36 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by XuR1.

The rejection under 35 U.S.C. §102(b) is improper because XuR1 was not published more than one year prior to the filing date of this application, and accordingly, the rejection must be withdrawn.

The Examiner appears to be relying on 20031003 as the external publication date. However, this is not the date of external publication as evidenced by the attached declaration and exhibit 1. Instead, the external publication date on the HP labs web site was March 21, 2003.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S._, 82 USPQ2d 1385 (2007):

> "Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, "[a]ll claim limitations must be considered" because "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385. According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal

Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

> (A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S._, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness."

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

1. Claim 9 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Xu et al. (HPL-2002-314R1) in view of Rune et al. (2004/0156384). Also, claims 19, 28 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Xu et al. (HPL-2002-314R1) in view of Xu et al. (HPL-2002-126R2).

The rejections are believed to be improper and are requested to be withdrawn for the reason stated above with respect to the rejection under 35 USC 102(b).

2. Claims 1-5, 10, 12, 14, 24, 31-33 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. (2003/0012132) in view of Banerjee et al. "Construction of an Efficient Overlay Multicast for Real-Time Applications".

Independent claim 1 recites, "selecting a new parent node for a child node incident to the upstream link in response to detecting the degradation of quality of service is resulting from the upstream link."

The rejection alleges Novaes discloses these features in paragraphs 63 and 71. However, Novaes fails to teach or suggest detecting the degradation of quality of service is resulting from an upstream link.

Novaes discloses two types of monitoring methods. See paragraph 62. In one type, described in paragraph 63, a child node sends a message to a parent node. If the parent node does not reply, then the child contacts the publisher directly to request reinsertion into a new SAM tree. Thus, only a child-parent link is tested. Novaes fails to teach or suggest monitoring an upstream link that is upstream to the child-parent link. Thus, Novaes fails to teach or suggest detecting the degradation of quality of service is resulting from an upstream link to the child-parent link.

In paragraph 71, Novaes discloses point-to-point reception is monitored at step 324. If the measured point-to-point QoS, c, is less than a predetermined QoS, p, then new node placement is requested. Here again Novaes only discloses monitoring point-to-point, which

is the link between two nodes. Novaes fails to disclose the child node measuring and comparing QoS for an upstream link.

Banerjee was cited to teach an application level multicast tree. However, Banerjee fails to cure the deficiencies of Novaes.

Independent claim 14, which has not been amended, recites, "receiving a complaint from a child node at a parent node in the multicast tree, the complaint indicating a degradation of quality of service of a service being received at the child node." Novaes fails to teach or suggest these features. In paragraph 63, Novaes discloses the child contacts the publisher node directly instead of the parent node if the parent does not send a reply. In paragraph 71, Novaes discloses node placement is requested again from the publisher, rather than the parent, if c is less than P. Thus, Novaes fails to teach or suggest the parent receiving a complaint from the child. Instead, in Novaes, the child contacts a publisher rather than a parent. Banerjee fails to remedy the deficient teachings of Novaes.

Note that independent claim 14 has not been amended. If a new rejection is applied against claim 14, the next office action must be non-final, in order to give the Applicants a fair opportunity to respond.

Independent claims 31 recites features similar to claim 1 described above. Independent claim 24 recites features similar to claim 14 described above. Accordingly, the rejections of claims 24 and 31 are also believed to be improper and should be withdrawn.

For at least the reasons described above, claims 1, 4-5, 10, 12, 14, 24 and 31 are believed to be allowable.

3. Claim 6 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. in view of Banerjee et al. as applied to claim 1 above, and further in view of Roy et al. "Application Level Hand-Off Support for Mobile Media Transcoding Sessions".

Claim 6 is believed to be allowable for at least the reason claim 1 is believed to be allowable.

4. Claims 7-8, 13, 15-18, 20-23, 25-27, 34-36 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. in view of Banerjee et al. as applied to claim 1 above, and further in view of Xu et al. (HPL-2002-281).

Claims 22 and 23 are canceled and the features of these claims are combined with independent claim 21. Independent claim 21 recites,

> determining whether reconfiguring the multicast tree improves quality of service for a node in the multicast tree; and
>
> reconfiguring the multicast tree in response to determining that reconfiguring the multicast tree improves quality of service for a node in the multicast tree.

Independent claim 35 recites similar features.

The rejection alleges these features are taught by Novaes in paragraphs 63 and 71. However, Novaes only discloses sending a message to the publisher to get reinserted in the SAM tree. Neither Novaes nor any of the other prior art of record discloses determining whether reconfiguring will actually improve the QoS and then reconfiguring in response to determining the QoS will be improved. In certain circumstances, there may not be another parent or upstream link available that will improve QoS. However, Novaes reinserts the node in the SAM tree regardless of determining whether the QoS will be improved.

Independent claim 27 recites,

> means for transmitting a complaint to the parent node's parent node in the multicast tree indicating a degradation of quality of service at the parent node in response to determining at the parent node that the quality of service is degraded; and
>
> means for requesting a list of a set of candidate nodes from a global information table in response to determining at the parent node that the quality of service is not degraded, wherein each of the candidate nodes is operable to provide the service to the child node and is physically close to the child node.

None of these features are taught or suggested by the prior art of record. Accordingly, claims 7-8, 13, 15-18, 20-21, 25-27 and 34-35 are believed to be allowable.

5. Claim 11 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. in view of Banerjee et al., as applied to claim 1 above, and further in view of Mandato et al. (2005/0157660). Claim 9 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. in view of Banerjee et al., as applied to claim 1 above, and further in view of Rune et al. Claims 19, 28-30 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Novaes et al. in view of Banerjee et al., as applied to claim 1 above, and further in view of Xu et al. (HPL-2002-281) and further in view of Xu et al. (HPL-2002-126R2).

These claims are believed to be allowable for at least the reasons their respective independent claims are believed to be allowable.

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Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Dated: June 2, 2008 By

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